



US Army Corps
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Camp Adair

Public Meeting

5 April 2005

Agenda

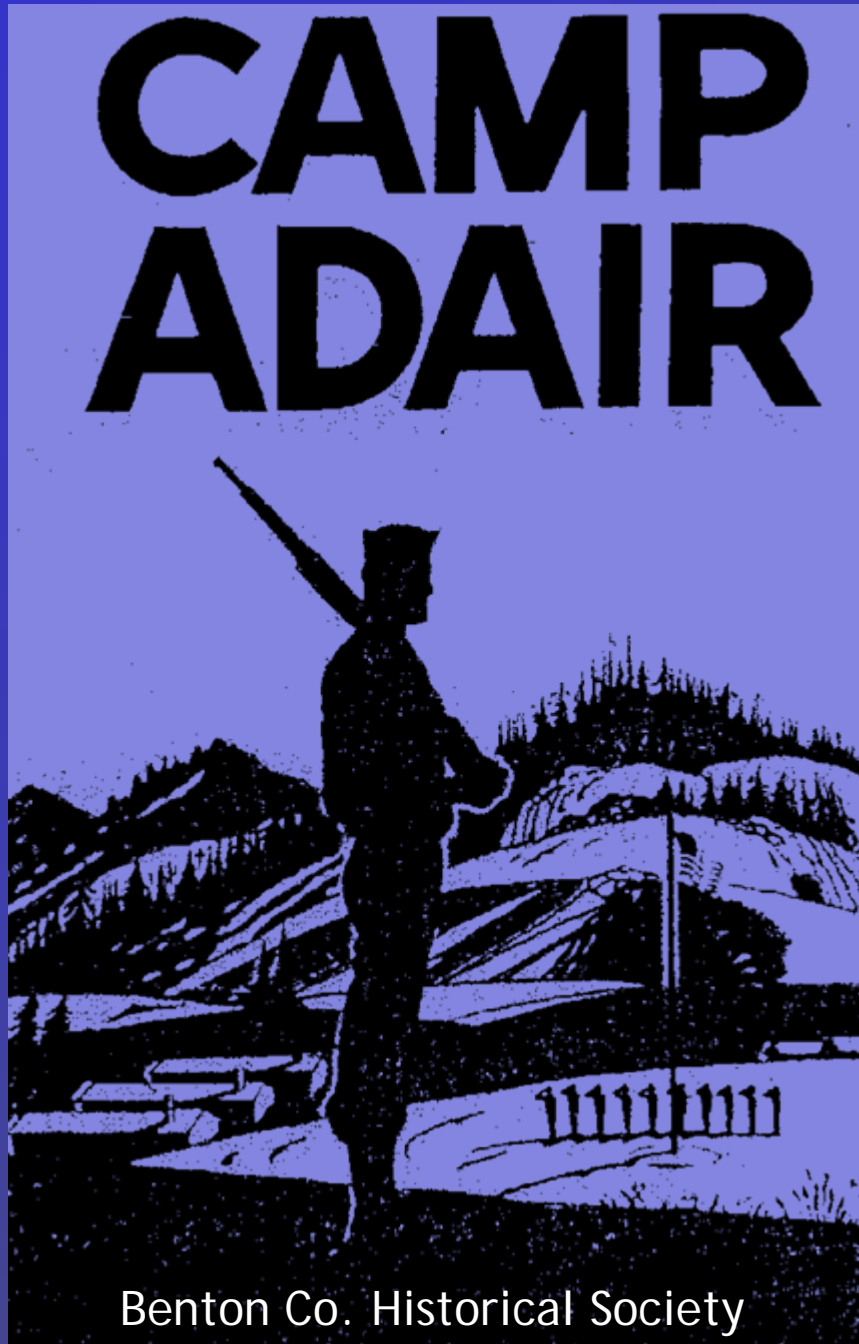


- Welcome / Project Introduction:
Bill Graney, USACE Seattle
- Administrative Comments:
Mike McAleer, USACE Portland
- HTRW work:
Sheri Moore, USACE Seattle
- MMRP SI work:
Zane Tuta, USACE Omaha contractor,
Shaw Environmental Inc.
- Questions and Answers: Bill Graney



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CAMP ADAIR

Benton Co. Historical Society

Former Camp Adair

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05 April 2006

Adair Village, OR



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Public Meeting Agenda

- Administrative Comments
 - Mike McAleer, USACE NWP
- Welcome / Project Introduction
 - Bill Graney, USACE NWS
- Project Overview & Projects 1 & 2
 - Sheri Moore, USACE NWS
- Project 3
 - Zane Tuta, Shaw Environmental Inc.
- Questions and Answers
 - Bill Graney



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Presentation Overview

- Former Camp Adair
- Corps of Engineers involvement and team members
- Authorized projects and contacts
- Project #1



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Former Camp Adair

- Camp Adair/Adair Air Force Station
 - 55,000+ acres
 - Army use: 1942 – 1946
 - Navy use: 1946
 - Air Force use: 1957 – 1970
 - Now owned by federal, state, local governmental agencies, private companies, and individuals



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USACE Involvement

- US Army Corps of Engineers
 - Responsible for Department of Defense environmental programs on former lands
 - Started project in late 1980s with the initiation of the “Formerly Used Defense Site” program
 - Has conducted several actions leading to the upcoming work discussed tonight



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Team Members & Roles

- Seattle District
 - Bill Graney, Project (01 & 03) Manager
 - Sheri Moore (current speaker), Project (01) Engineer
 - Dave Gilliam, Project Realty Specialist
 - Mike Bailey (not present), Project (01) Hydrogeologist
- Portland District
 - Mike McAleer, Project Public Affairs Officer
- Omaha District and Centers of Expertise
 - John Miller, Program Coordinator (Project 03)
 - Sam Bass, Omaha Center of Expertise (for 01 & 03)
 - Bill Veith, Huntsville Center of Expertise (for 03)
- Shaw Environmental
 - Peter Kelsall, Project (03) Manager
 - Zane Tuta, Project (03) Engineer



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Camp Adair Projects

See Sheri

See Shaw

Project 1 "HTRW"

Approved
1992

Actions

Underground tank
removals in Adair
Village 1995

Status

Starting broader look
at possible issues
beyond tanks

Project 2 "BD/DR"

Approved
1992

Actions

Manhole covers
replaced, smoke
stack
demolished,
1998

Status

Complete!

Project 3 "MMRP"

Approved
1992

Actions

Preliminary
Assessment,
1998

Status

Beginning
investigation
phase

Project 1: Project Area





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What does Project 1 address?

- 1995 Underground storage tank removal project still needs dotting of i's and crossing of t's
- We know what to look for now (compared to 1980s at start of program)
- Are there any other potential environmental issues resulting from Army/Air Force activities (other than munitions related) possibly impacting community?



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Where is Project 1 in the Process?

Project 1 Process Road Map

(following the governing regulatory process)

FROM:

- Project initialization (1980s)
- Tank removal



**Preliminary
Assessment**
(Could there be anything
out there?)



*We are
here*

TO:

- Site Investigation (what exactly is out there and where is it?)

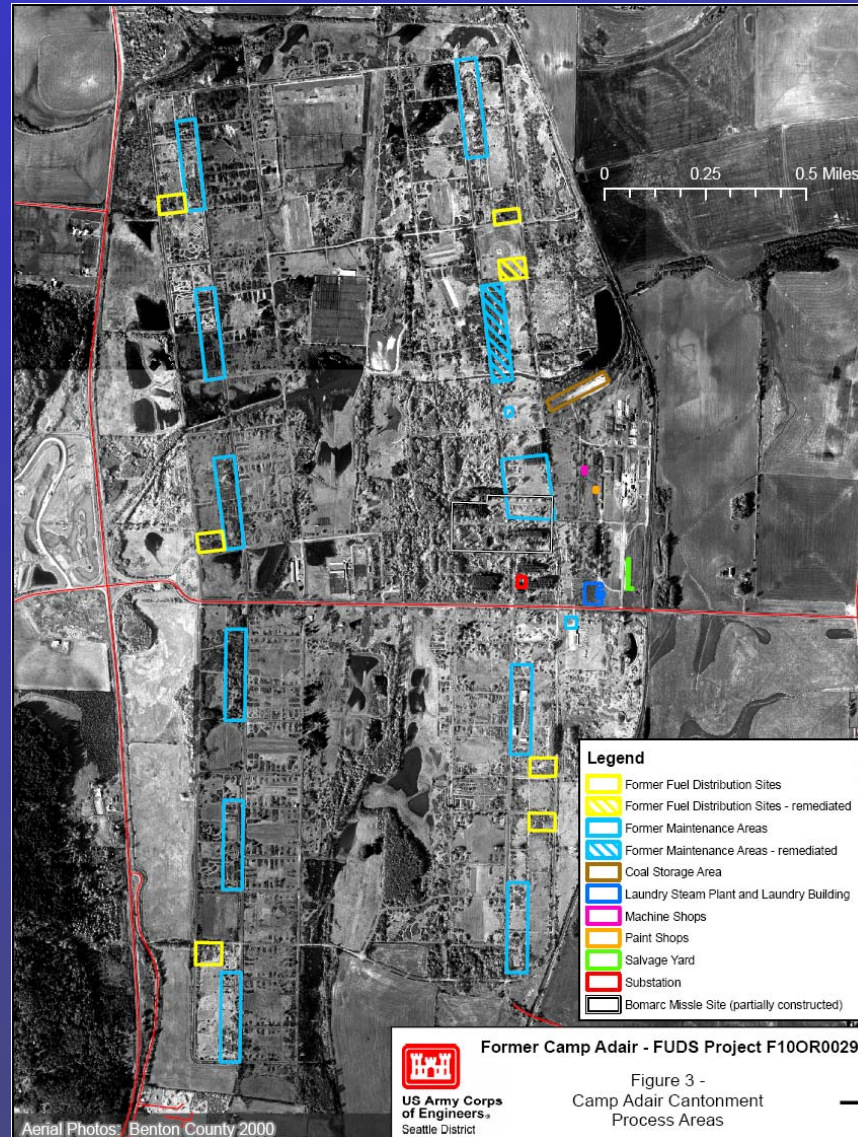
OR

- No further action!



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Project 1 Investigation Areas





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Project 1:

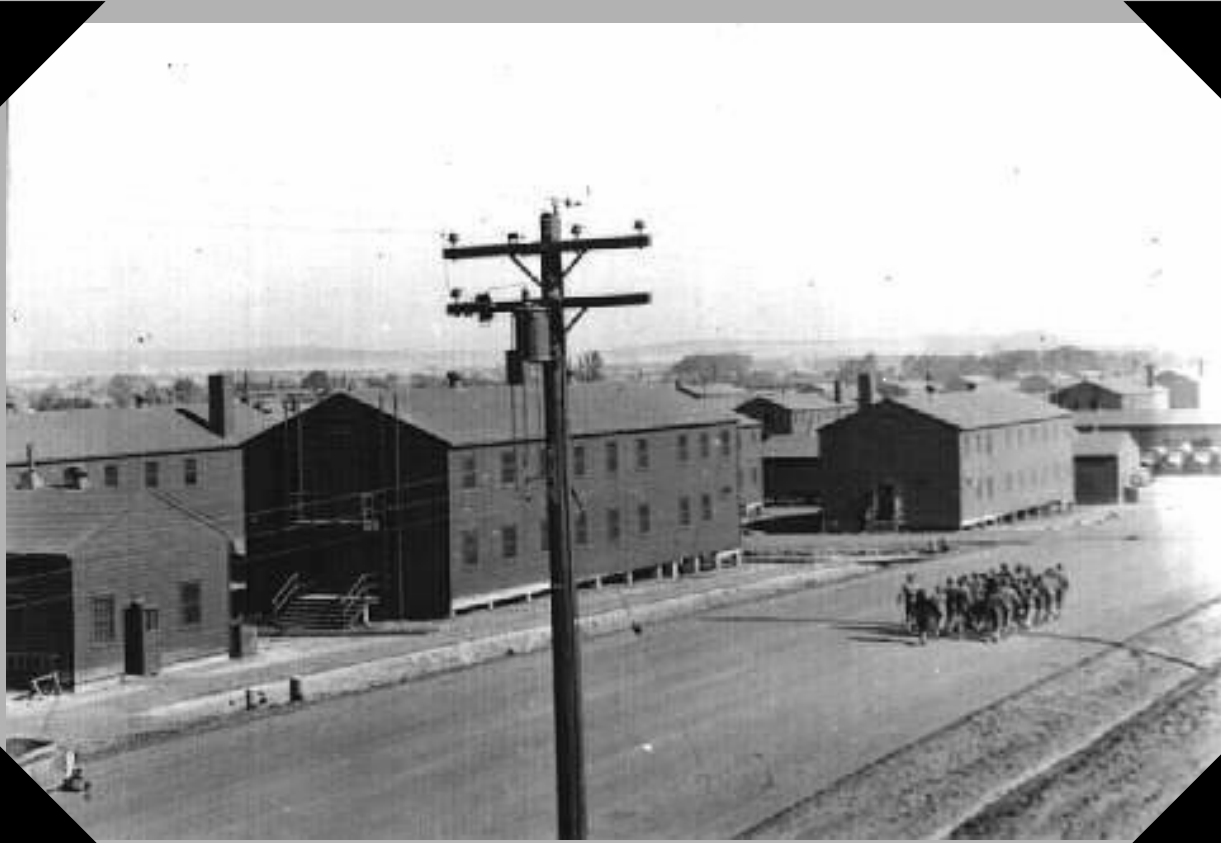
What can you expect?

- If you are in the project area:
 - Contact has already been made by the Corps
- Otherwise,
 - No contact necessary based on today's information
- Preliminary assessment to be completed by end of calendar year with a recommendation of what work, if any, should follow



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Thank you!





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Camp Adair Adair Air Force Station

Military Munitions Response Program
Site Inspections



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Background

- For decades, Department of Defense (DoD) has used military munitions in training and testing to achieve force readiness
- When ranges are put to another use, it is necessary to protect human health and the environment from potential hazards



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What Could Be There?

- Munitions and Explosives of Concern (MEC)
 - Unexploded Ordnance (UXO)
 - Discarded Military Munitions
 - Explosive Munitions Constituents
- Munitions Constituents (MC)



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Why Now?

- In 2002 (National Defense Authorization Act), Congress required DoD to:
 - Create an inventory of defense sites known or suspected of containing munitions or munitions constituents
 - Prioritize sites needing action
 - Give Congress a response plan



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DoD's Response

- Military Munitions Response Program
- DoD has identified over 3,300 sites
- Active installations (1,333)
- Base Realignment & Closure (318)
- Formerly Used Defense Sites—FUDS (1,658)
- Site Inspections to be completed by 2010



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FUDS Site Inspections

- U.S. Army Corps of Engineers (USACE)
- Shaw Environmental, Inc.
- Oregon Department of Environmental Quality
- U.S. Environmental Protection Agency
- Stakeholders--Land owners, residents, public



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Site Inspection (SI) Goal

- Are munitions or munitions constituents present?





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Possible Outcomes of SI

- Eliminate a site from further action
- Determine need to investigate further
 - Remedial Investigation (RI)
 - Feasibility Study (FS)
- Determine need for a time-critical removal action



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Yardsticks

- SI provides information needed for
 - EPA's Hazard Ranking System for National Priorities List (Superfund) sites
 - DoD's new Munitions Response Site Prioritization Protocol



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SI Process

- Review data
- Technical Project Planning (TPP)
- Work Plan
- Field work
- SI Report



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TPP Process

- Meet stakeholders & identify concerns
- Identify Areas of Concern (AOCs)
- Review site information
- Verify current & future land use
- Develop a Conceptual Site Model
- Identify Data Gaps & Data Objectives
- Concur on field work approach



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Site History

- Army acquired 57,000 acres, beginning in 1941
- Many residents were displaced from farms, homes, and the town of Wells



Ben Maxwell, 1941

Salem (Oregon) Public Library Historic Collection



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Infantry Division Training

- Camp Adair trained triangular (three-regiment) infantry divisions from 1942 to 1944



Ben Maxwell, 1942

Salem (Oregon) Public Library Historic Collection



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Divisions at Camp Adair

- 96th Deadeye
 - Aug 42 – May 43
- 104th Timberwolf
 - Sep 42 – Aug 43
- 70th Trailblazer
 - Jun 43 – Jul 44
- 91st Powder River
 - Nov 43 – Mar 44





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Training Activities

- Small arms
- Mortars & rockets
- 37 & 57 mm gun
- 105 & 155 mm howitzer
- Tank/aircraft (bombs to 500 lb)
 - ~265,000 HE rounds fired in last two years



Anti-tank gun at Oregon.

Timberwolf Artifacts website

<http://timberwolf104.tripod.com>



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Other Activity (1944-46)

- Navy/Marine pilot bombing and gunnery
- Storage facility
- POW Camp
- Navy Hospital



Ben Maxwell, 1942

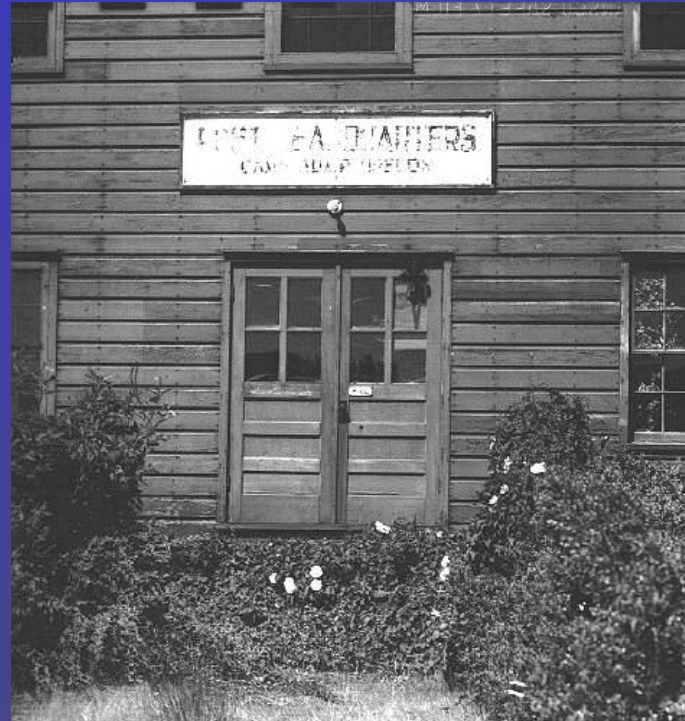
Salem (Oregon) Public Library Historic Collection



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Other Activity (Post-War)

- Declared surplus in April 1946
- Certificate of Clearance in 1947
- 1950's removal of buildings
- Adair Air Force Station (1958-1969)
 - Munitions activity only at skeet range



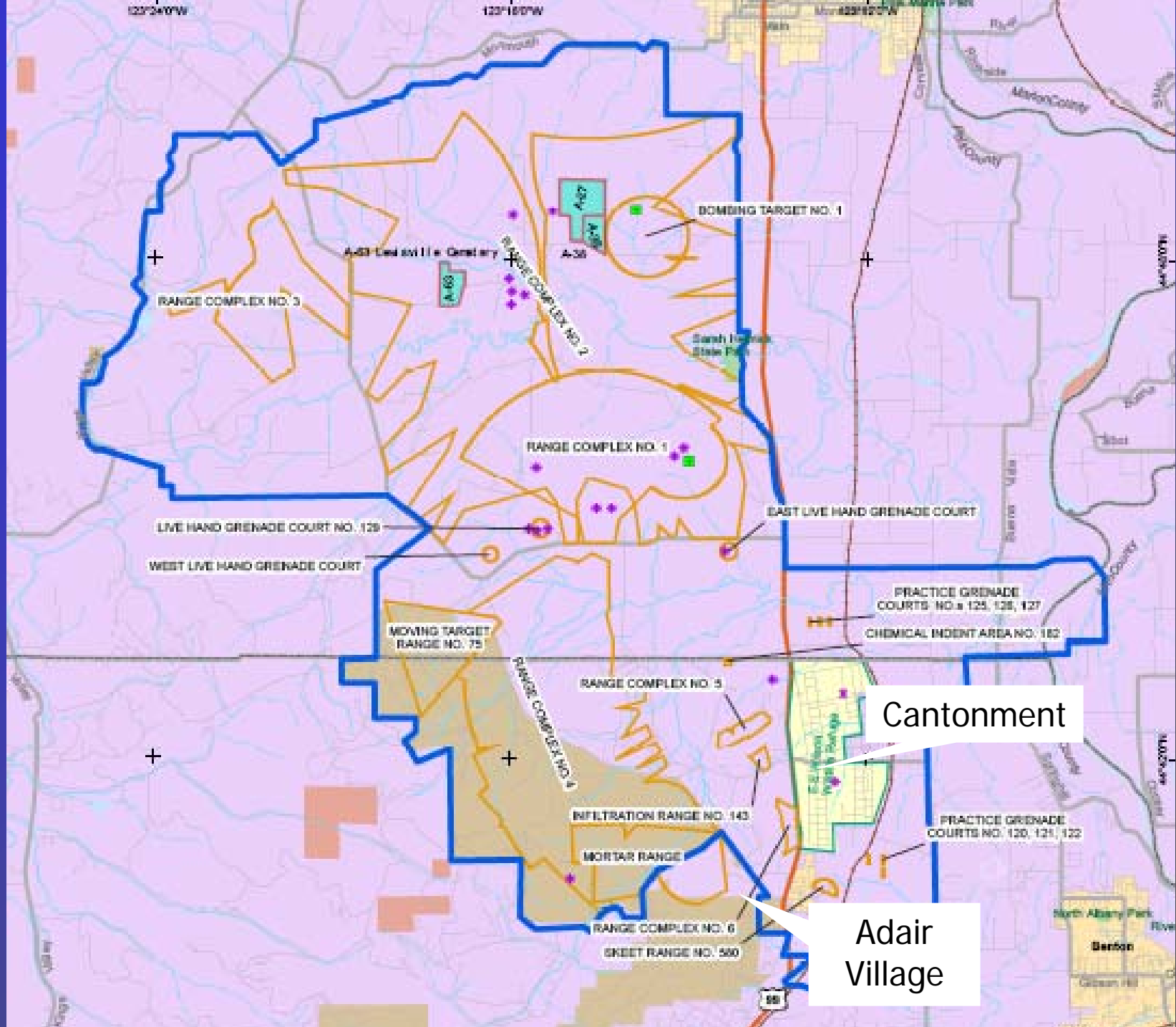
Ben Maxwell,
1954 Salem
(Oregon) Public
Library Historic
Collection



Ben Maxwell, 1957
Salem (Oregon) Public
Library Historic
Collection



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Current & Future Use

- Agricultural
- Forest
- Residential
- Commercial
- Wildlife management
- Recreation
- National Guard



Polk County (Oregon) website



E.E. Wilson Wildlife Area website



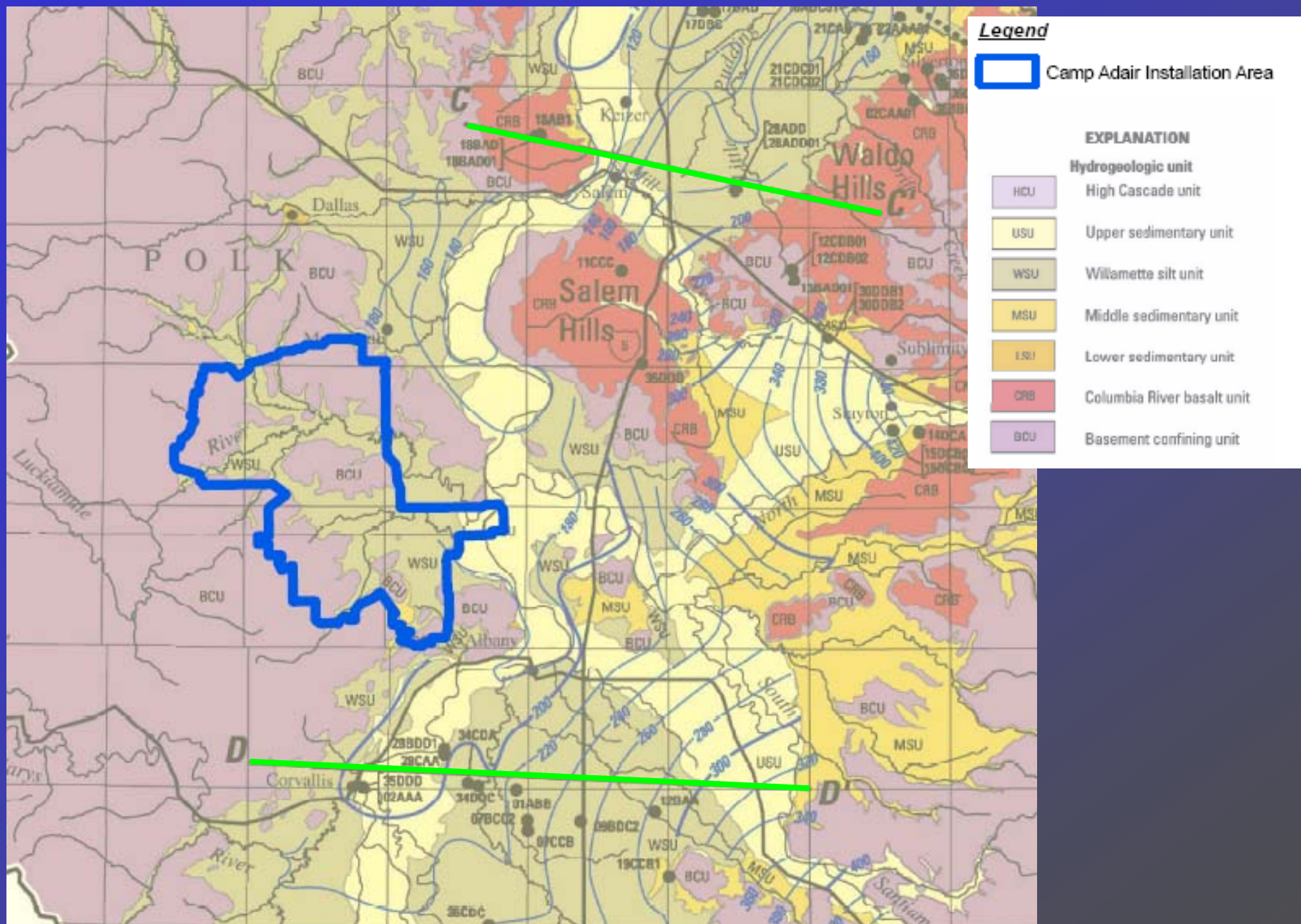
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Site Conditions

- Flat to mountainous
- 35 to 40 inches of rain
- Willamette Valley
 - Coast Range to west
 - Cascade Range to east
- Bedrock—Marine lavas & sediments
- Silt, sand & gravel in valleys
- Water supply
 - Domestic wells
 - Public systems: surface water & groundwater



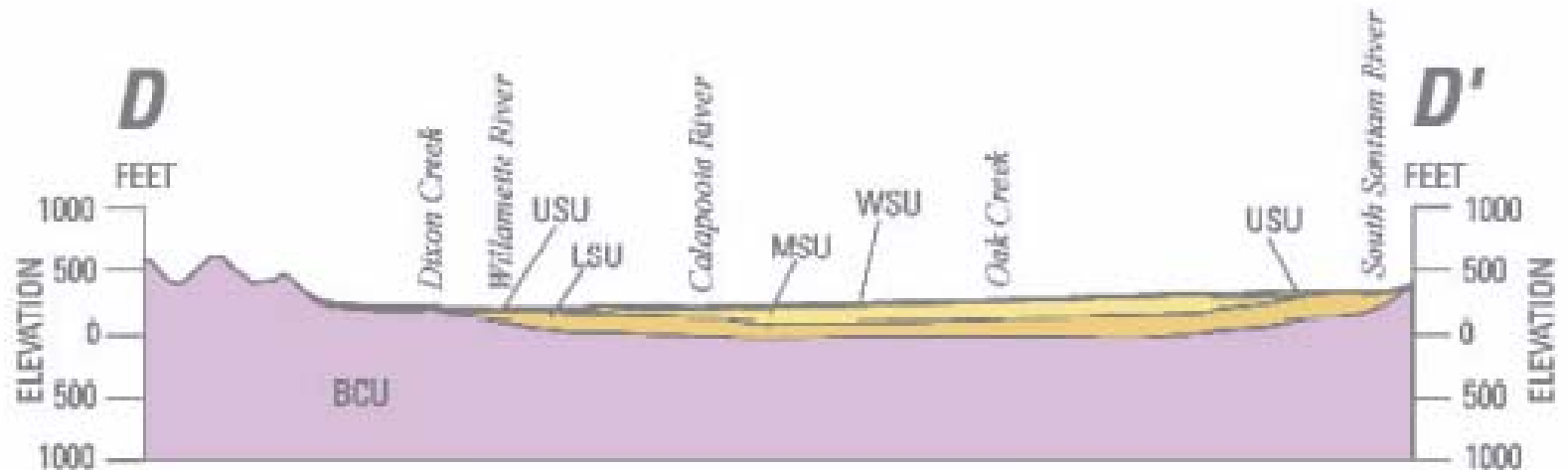
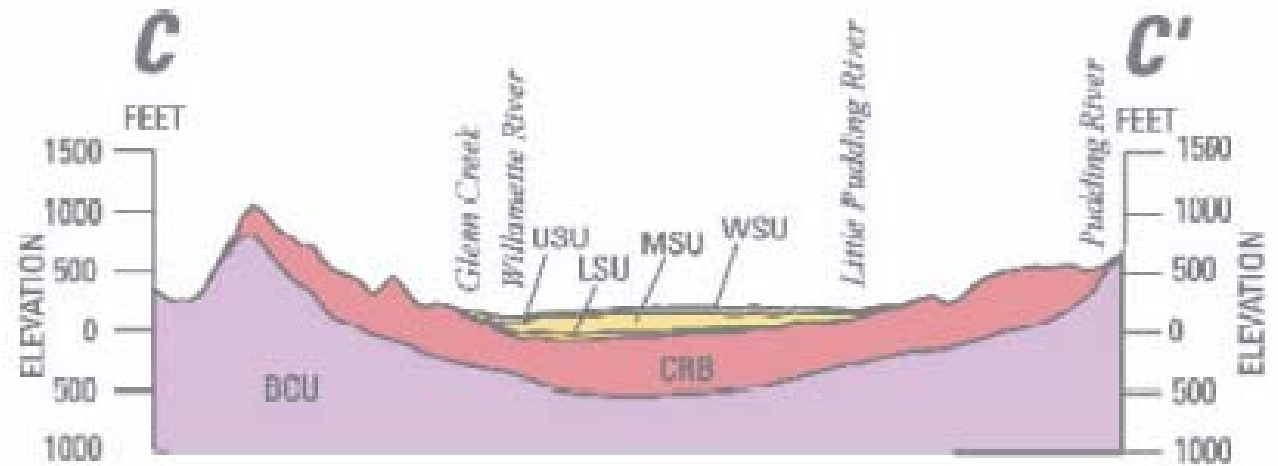
USGS



Conlon and others, 2005, Ground-Water Hydrology of the Willamette Basin, USGS



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VERTICAL SCALE GREATLY EXAGGERATED

Conlon and others, 2005, Ground-Water Hydrology of the Willamette Basin, USGS



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Project History

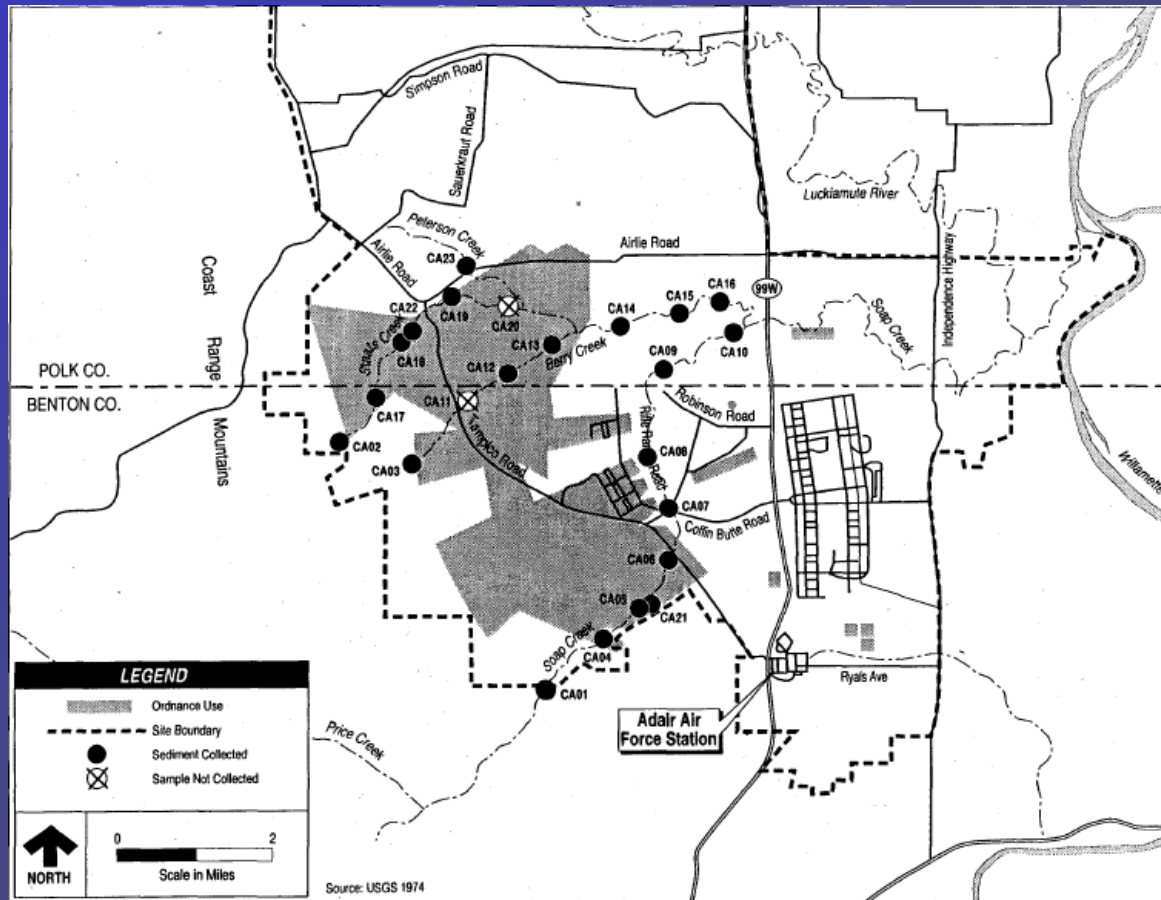
- 1992 Inventory Project Report
- 1996 Screening Site Inspection (URS for USEPA)
- 2001 Archive Search Report (ASR)
- 2004 ASR Supplement
- Other Environmental Work
 - Hazardous/toxic waste



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1996 Inspection

- Constituents, not munitions
- Sediment samples
- Explosives & metals
- Southern ranges only





21 Areas of Concern (AOCs)

- Small Arms Ranges
 - Infiltration Range No. 143
 - Range Complex No. 4
 - Range Complex No. 5
 - Range Complex No. 6
 - Skeet Range No. 580
- Explosive Munitions Ranges
 - Range Complex No. 1
 - Range Complex No. 2
 - Bombing Target No. 1
 - Range Complex No. 3
 - Mortar Range
 - Moving Target Range No. 75



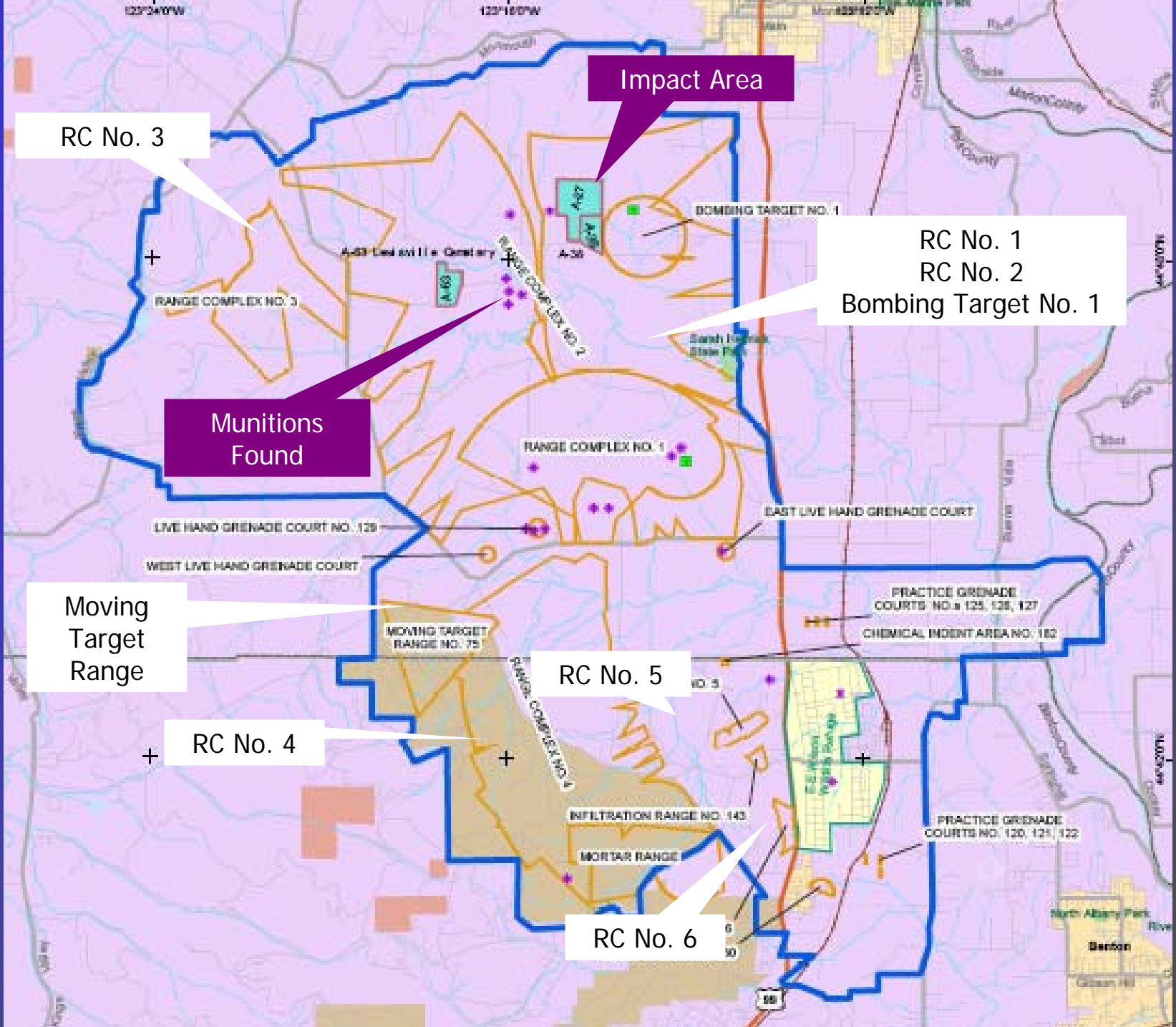
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21 Areas of Concern (AOCs)

- Live Hand Grenade Courts
 - East Live HGC
 - West Live HGC
 - Live HGC No. 129
- Practice Hand Grenade Courts
 - Practice GC No. 120
 - Practice GC No. 121
 - Practice GC No. 122
 - Practice GC No. 125
 - Practice GC No. 126
 - Practice GC No. 127
- Chemical Identification Area No. 182



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Encounters with Munitions

- Live 60mm mortar-north of Airlie Rd-2001
- MK I illumination grenade-landfill-1997
- 60mm mortar-OR Fish & Wildlife-1995
- Incendiary round hit/burned-near Monmouth-1986
- Smoke rounds-near pillboxes-1956+
- 81mm mortar-1951
- Hand grenades-Live Hand Grenade Courts
- 2.36" rocket-Parade Field/Coffin Butte
- Mortar-south central cantonment pond digging



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Potentially Affected Media

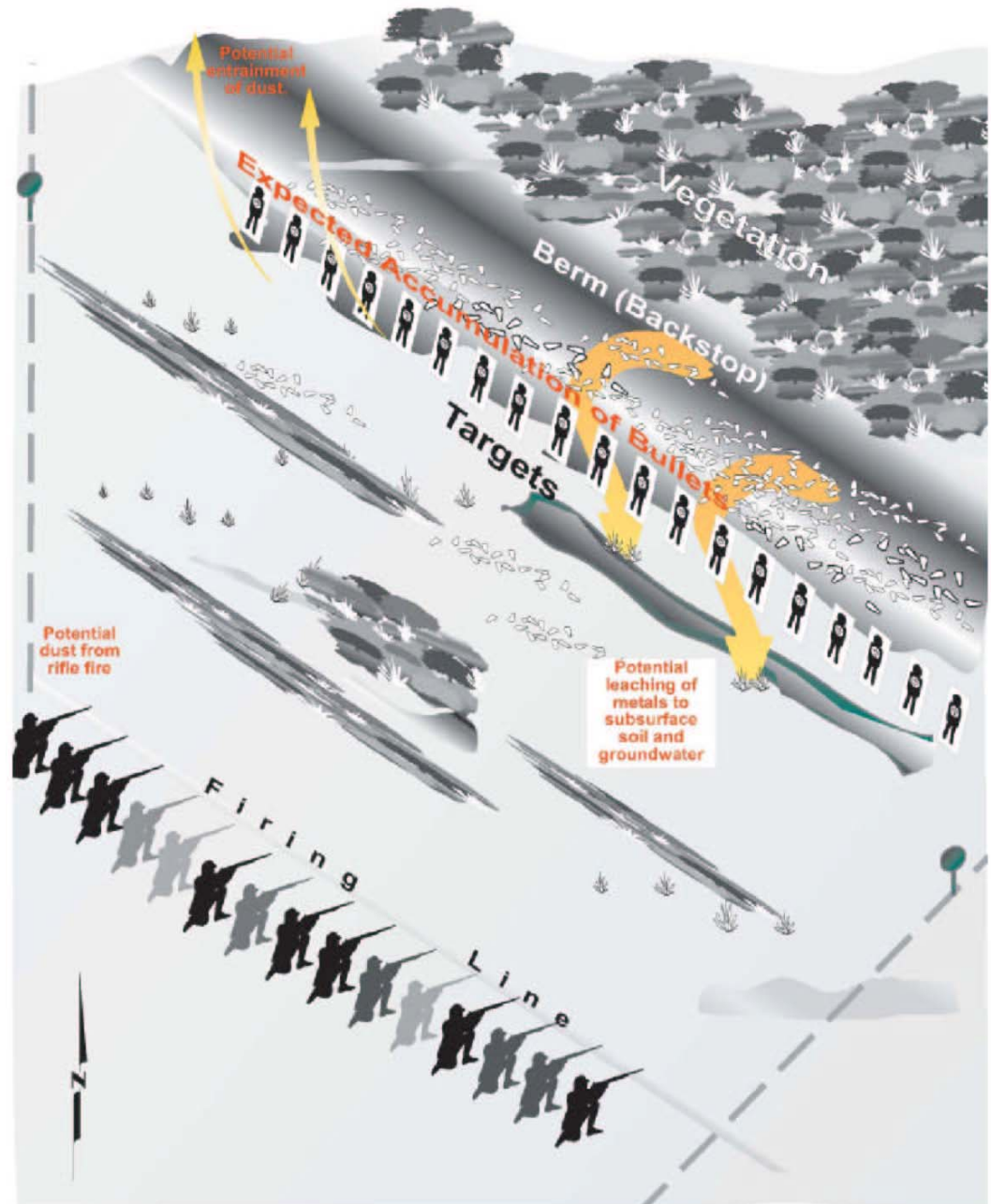
- Soil
- Surface water & sediment
- Groundwater



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Conceptual Site Model- Small Arms Ranges

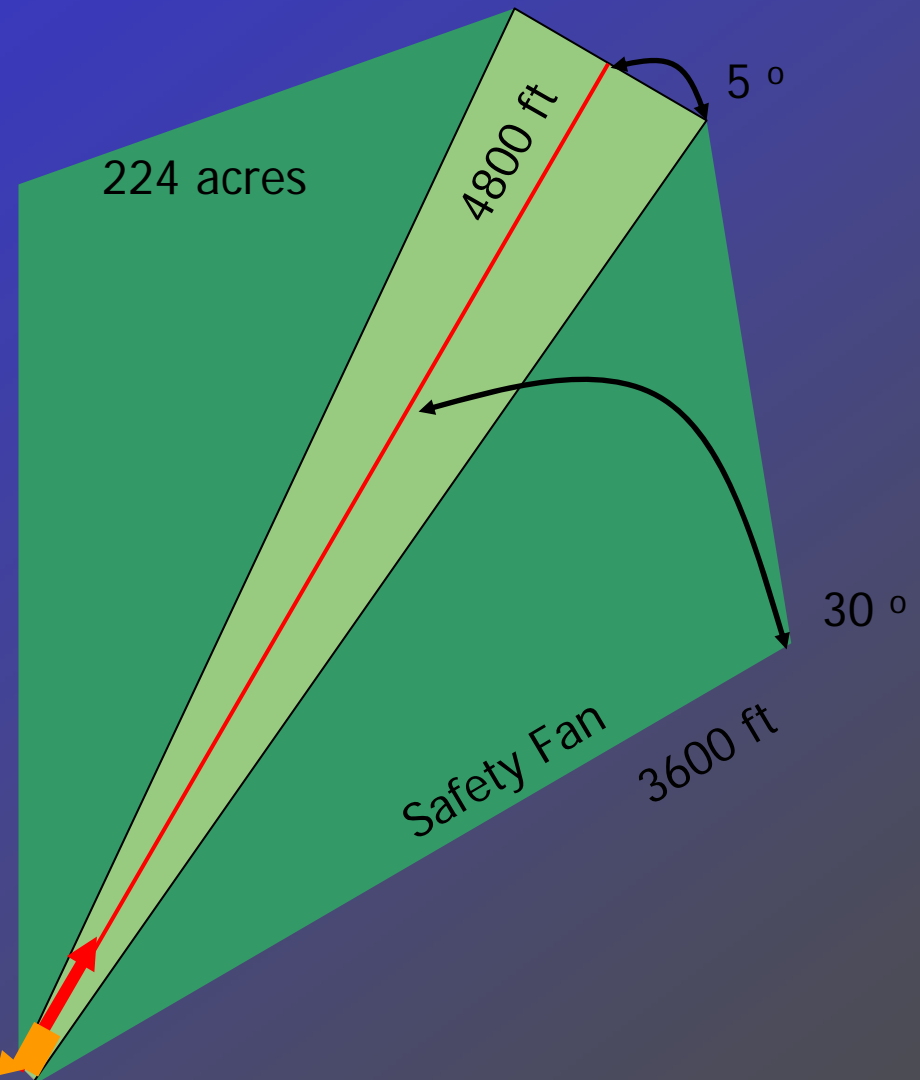
- Non-explosive projectiles (lead)
- Black powder propellant





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Conceptual Site Model- Range Fan

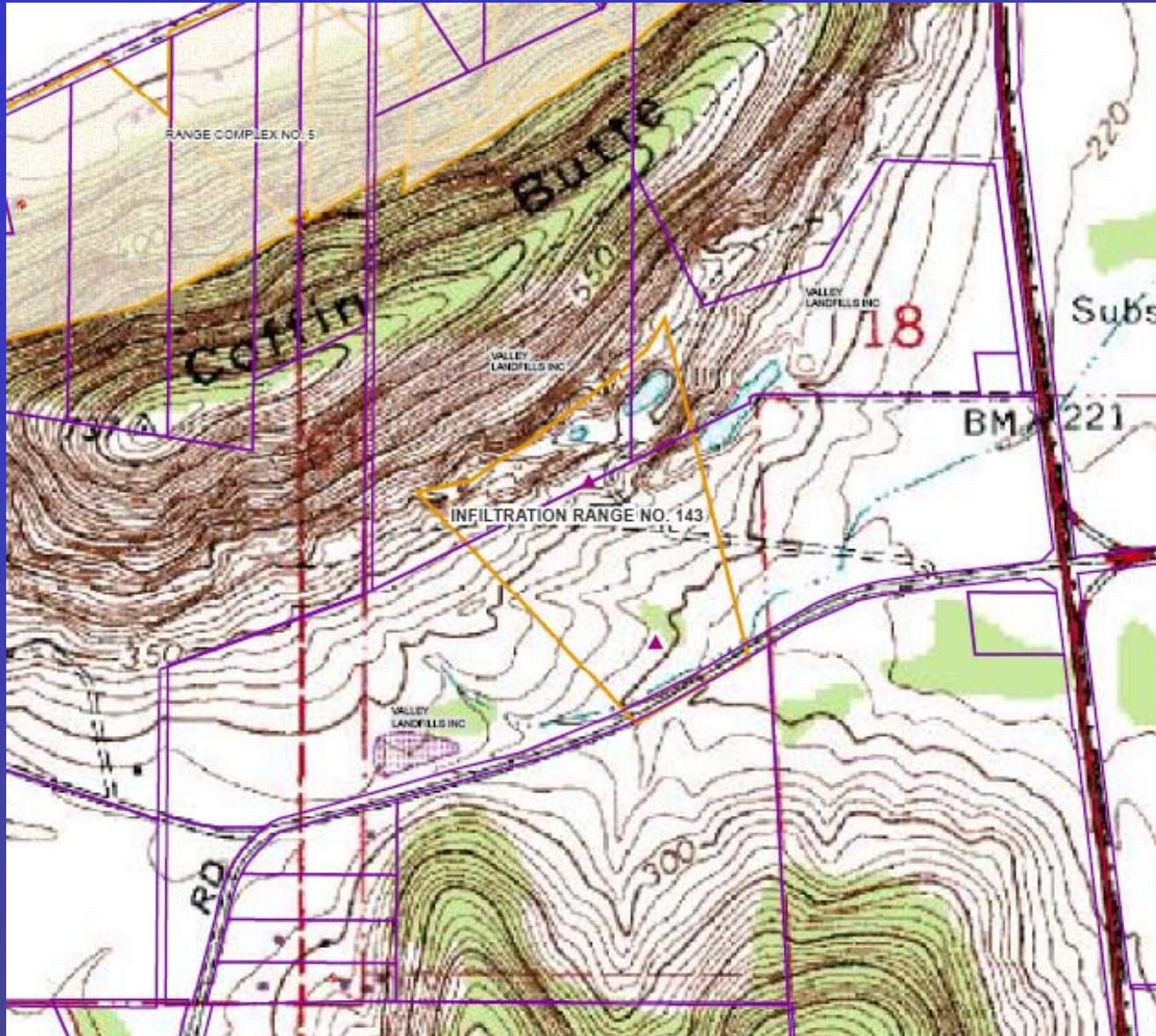


Active Area
90 x 150 ft
with
Firing Line &
Backstop Berm



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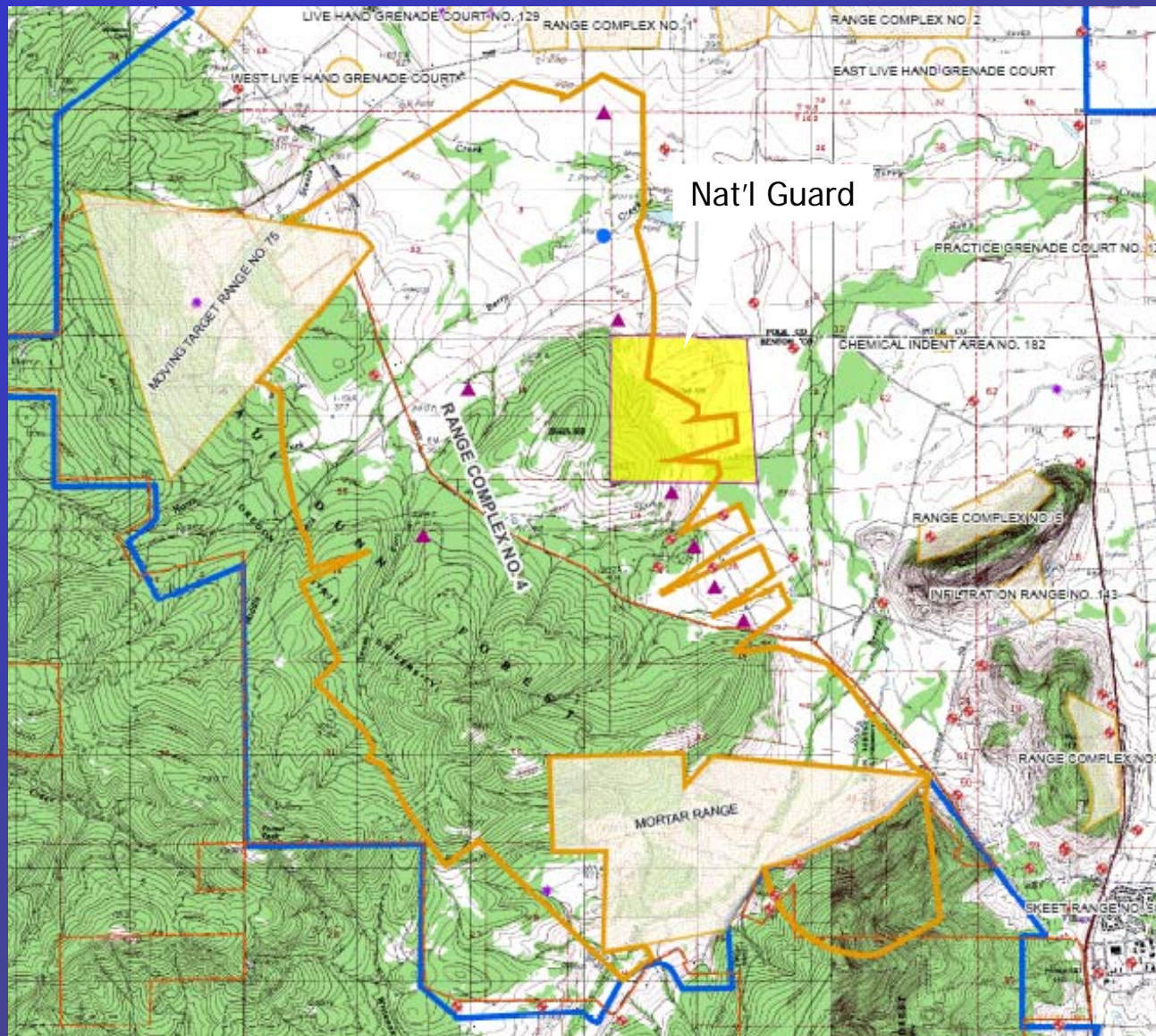
Infiltration Range No. 142





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Range Complex No. 4

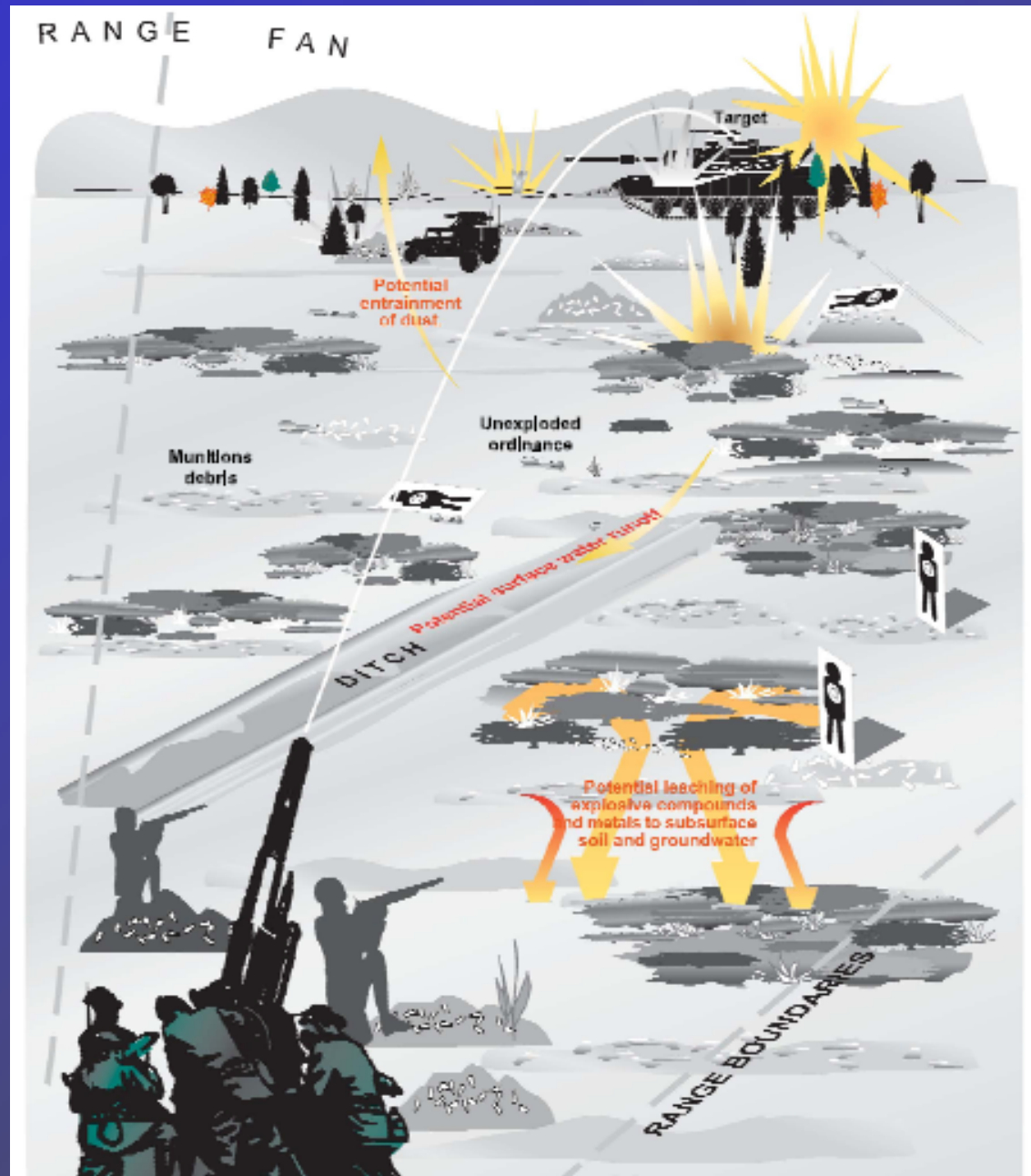




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Conceptual Site Model- Explosive Munitions Ranges

- Explosive projectiles and propellant
- Metals





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Multi-Use Ranges

"Our infantry companies had their first taste of advancing behind a close artillery barrage and attacking an objective with live ammunition. For example, the objective was the high ground several hundred yards to the front. The company was in position in a patch of woods waiting with trepidation for the artillery to lay down a barrage in front of us before we advanced."

Don Docken re: Camp Adair

<http://www.trailblazersww2.org>



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Multi-Use Ranges

"As shells whistled overhead and exploded 75 yards ahead, the distance suddenly seemed much too short. It is a helpless feeling to be dependent on the accuracy of the artillerymen on their 105mm howitzers...We waited for the barrage to stop, and then we were up and running out into the open ground, zigzagging up the slope. Silhouettes were automatically raised up in front of us, and we blazed away at them with live ammunition."

Don Docken re: Camp Adair

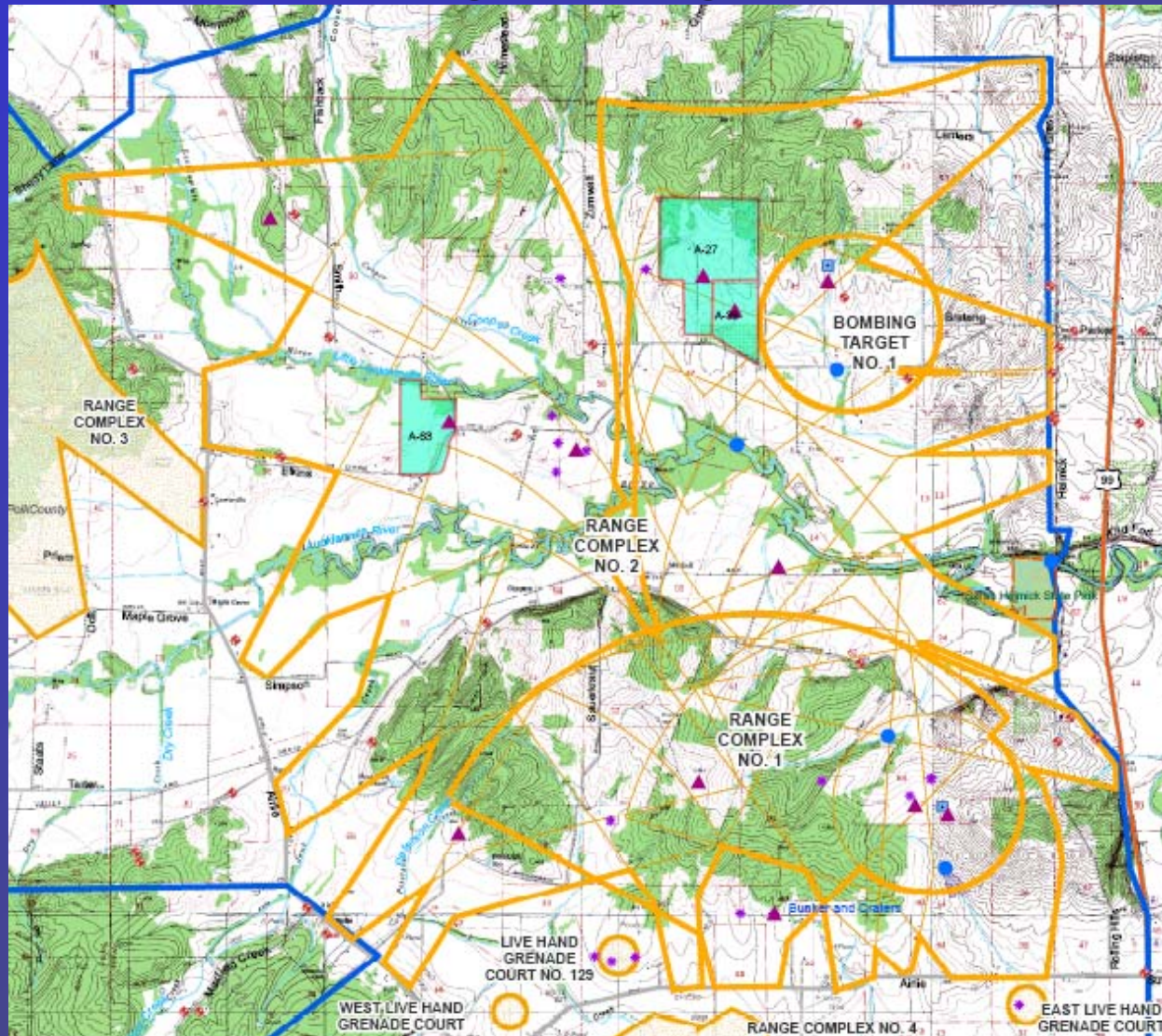
<http://www.trailblazersww2.org>



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Range Complex No. 1 & 2

Bombing Target No. 1





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Range Complex No. 1 & 2

Bombing Target No. 1

- Fortified Training Area
- Bombing Targets
- Field Combat Ranges
- Moving Target Ranges
- Mortar Range
- Infiltration Range
- Live HE 60mm mortar, 2001
- Detonated by Oregon State Police Bomb Disposal Unit

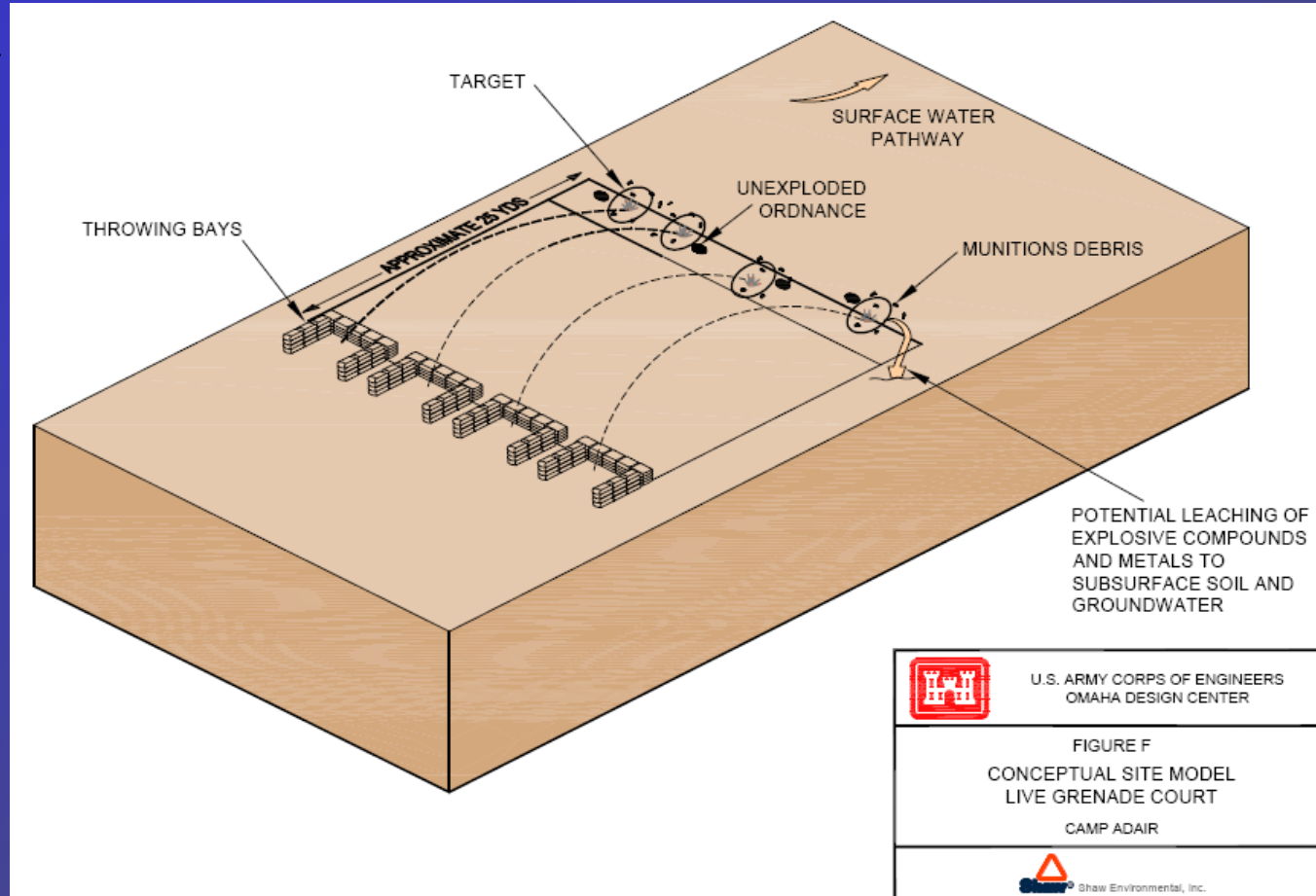




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Conceptual Site Model- Live Hand Grenade Courts

- Explosives
- Metals





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Live Hand Grenade Court No. 129





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Live Hand Grenade Courts

- Throwing bays or trench
 - Sandbags
 - Concrete
- Targets at 25 yards
 - Circle outline
 - Crater
 - Foxhole
- 5-foot high ready line barrier, 15 yards behind throwing area
- Duds found by residents



Fort Leonard Wood 577th Engineer Battalion website

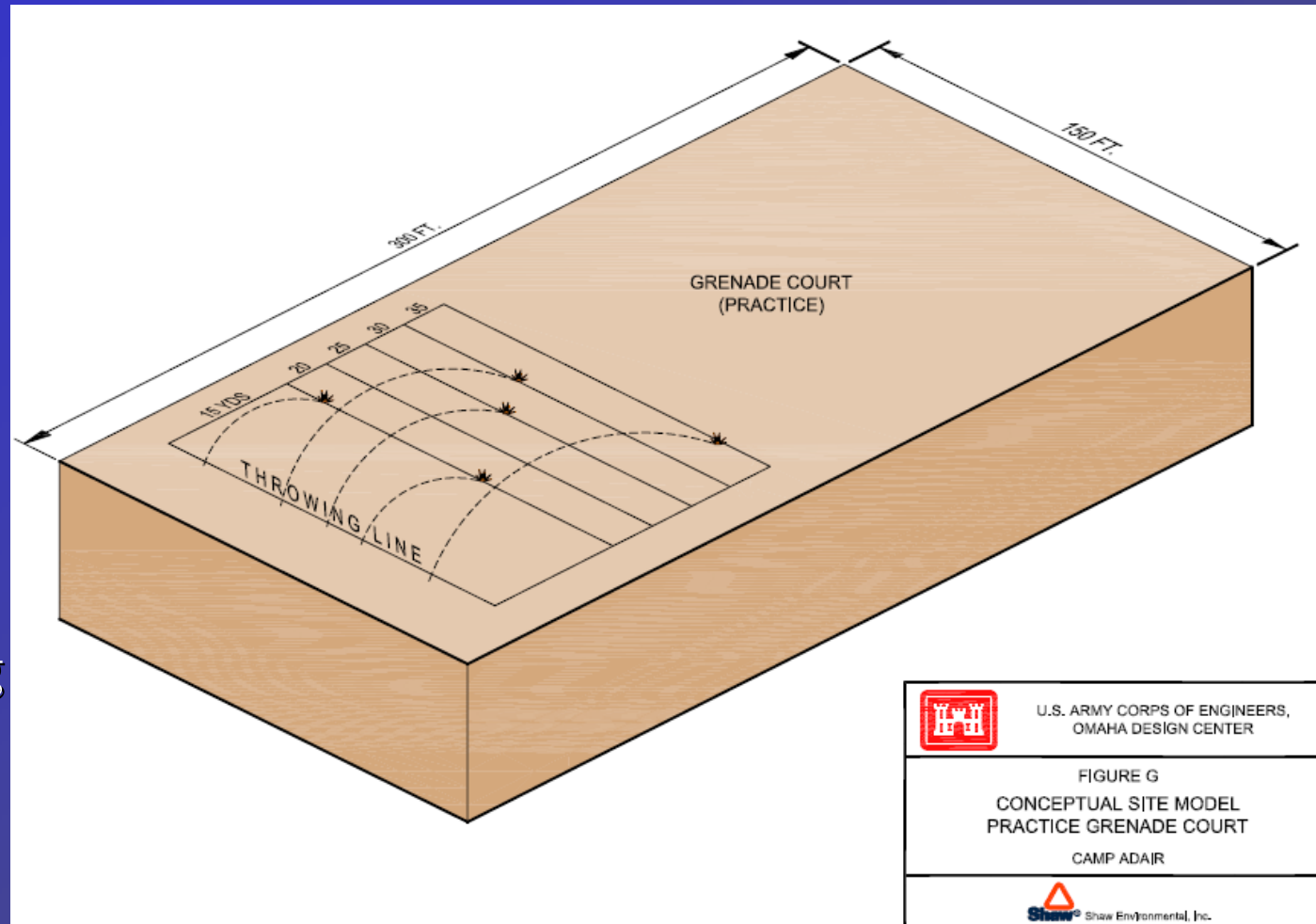
<http://www.wood.army.mil/577th/>



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Conceptual Site Model- Practice Grenade Courts

- Black Powder
(small spotting
charges)



U.S. ARMY CORPS OF ENGINEERS,
OMAHA DESIGN CENTER

FIGURE G
CONCEPTUAL SITE MODEL
PRACTICE GRENADE COURT

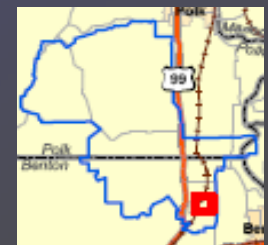
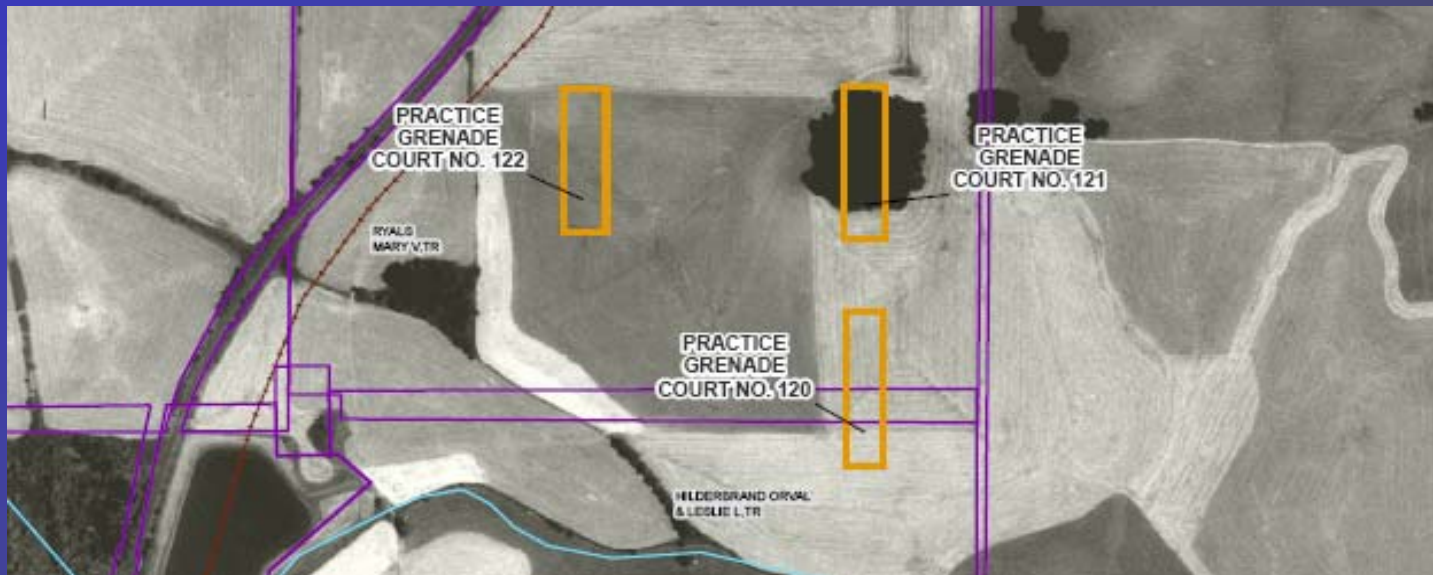
CAMP ADAIR

 Shaw Environmental, Inc.



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Practice Grenade Courts

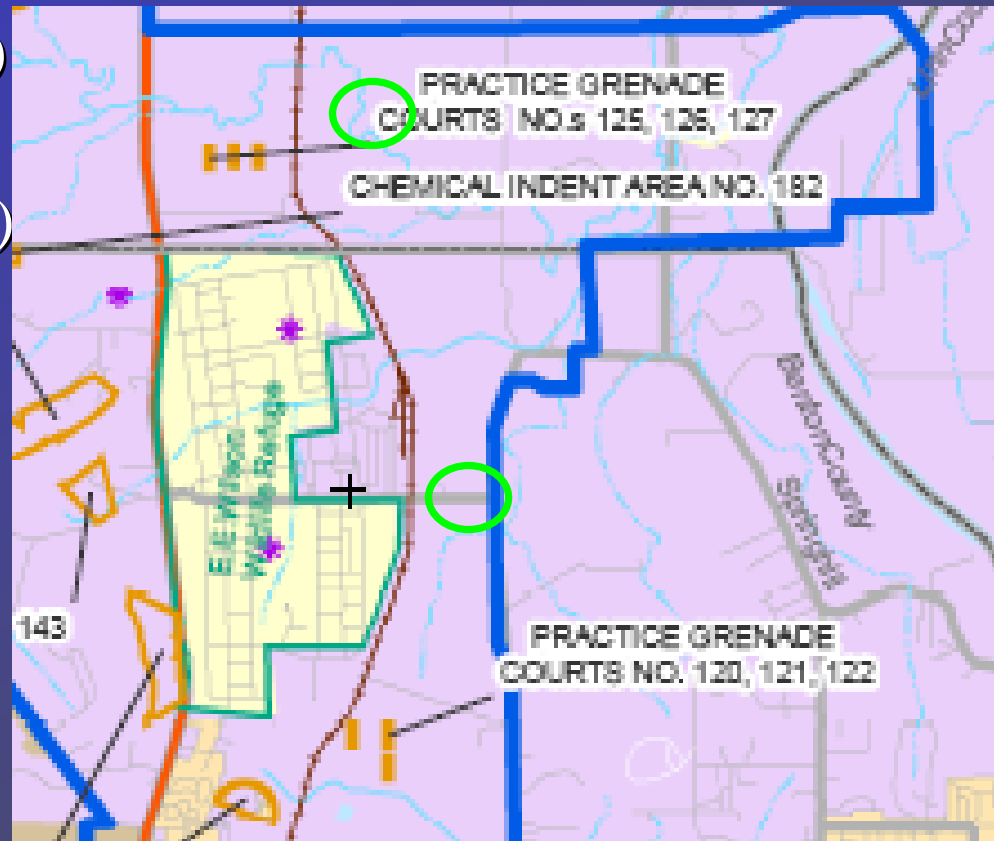




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Practice Grenade Courts

- Training grenades (inert)
- Practice grenades (black powder spotting charges)
- Explosive munitions unlikely
 - Standard range practice
 - Near cantonment

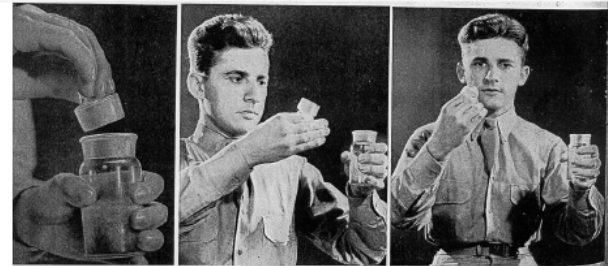
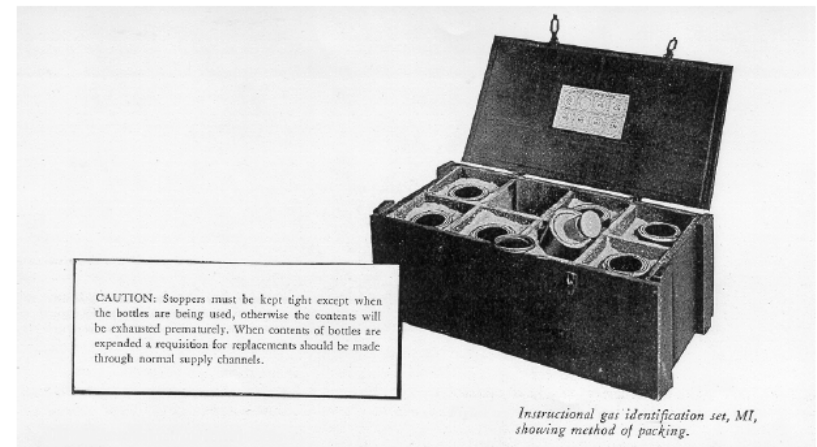




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Conceptual Site Model- Chemical Identification Area

- Gas chamber (gas mask training)
- Indoor sniff sets for odor identification
- Detonation sets may have been used outdoors
- Decontamination demonstrations
- Limited quantities



Use. The set is primarily used for indoor instruction prior to a field exercise with the detonation gas identification set.



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Chemical Identification Area





AOC	Presence or Absence of MEC	Presence or Absence of MC	Proposed Inspection Activities
Small Arms Ranges			
Infiltration Range No. 143	Unknown	Unknown	Reconnaissance for MEC and sample targets. Soil sampling.
Range Complex No. 4	Unknown	Unknown	Reconnaissance for MEC and sample targets. Soil and sediment sampling.
Range Complex No. 5	Unknown	Unknown	Reconnaissance for MEC and sample targets. Soil and groundwater sampling.
Range Complex No. 6	Unknown	Unknown	Reconnaissance for MEC and sample targets. Soil and groundwater sampling.
Skeet Range No. 580	Absent	Unknown	Reconnaissance for sample targets. Soil sampling.
Explosive Munitions Ranges			
Range Complex No. 1	Present	Unknown	Reconnaissance for sample targets. Sample soil, sediment, and groundwater.
Range Complex No. 2	Present	Unknown	Reconnaissance for sample targets. Sample soil, sediment, and groundwater.
Bombing Target No. 1	Present	Unknown	Reconnaissance for sample targets. Sample soil, sediment, and groundwater.
Range Complex No. 3	Present	Unknown	Reconnaissance for sample targets. Sample soil, sediment, and groundwater.
Mortar Range	Present	Unknown	Reconnaissance for sample targets. Sample soil, sediment, and groundwater.
Moving Target Range No. 75	Present	Unknown	Reconnaissance for sample targets. Sample soil, sediment, and groundwater.
Live Hand Grenade Courts			
East Live Hand Grenade Court	Present	Unknown	Reconnaissance for sample targets. Sample soil. Sample groundwater near one of three live hand grenade courts.
West Live Hand Grenade Court	Present	Unknown	Reconnaissance for sample targets. Sample soil. Sample groundwater near one of three live hand grenade courts.

Data Gaps

AOC	Presence or Absence of MEC	Presence or Absence of MC	Proposed Inspection Activities
Live Hand Grenade Court No. 129	Present	Unknown	Reconnaissance for sample targets. Sample soil. Sample groundwater near one of three live hand grenade courts.
Practice Grenade Courts			
Practice Grenade Court No. 120	Absent	Absent	Reconnaissance and sampling are not required.
Practice Grenade Court No. 121	Absent	Absent	Reconnaissance and sampling are not required.
Practice Grenade Court No. 122	Absent	Absent	Reconnaissance and sampling are not required.
Practice Grenade Court No. 125	Absent	Absent	Reconnaissance and sampling are not required.
Practice Grenade Court No. 126	Absent	Absent	Reconnaissance and sampling are not required.
Practice Grenade Court No. 127	Absent	Absent	Reconnaissance and sampling are not required.
Chemical Identification Area			
Chemical Identification Area No. 182	Absent	Absent	Reconnaissance and sampling are not required.



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Field Investigation

- Reconnaissance
 - Methods
 - Visual
 - Magnetometer
 - Objectives
 - Avoid UXO
 - Select samples
 - Munitions eval
- Sampling
 - Shallow Soils
 - Surface water/sediment
 - Groundwater (existing wells)



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Ben Maxwell, 1942

Salem (Oregon) Public Library Historic Collection



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Camp Adair, Oregon barracks
Jan. 1943

Timberwolf Artifacts website
<http://timberwolf104.tripod.com>



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Ben Maxwell, 1942

Salem (Oregon) Public Library Historic Collection